IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| Application No. | : | 10/804,684 |
| Applicant | : | Michael J. Ziegler et al. |
| Filed | : | March 19, 2004 |
| Title | : | EPOXY POLYMER ADDITIVES FOR POWDER COATINGS |
| Group Art Unit | : | 1712 |
| Examiner | : | Sellers, Robert |

Box Stop Non-Fee Amendment
Commission for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**DECLARATION UNDER 37 CFR 1.132**

1. My name is Michael Ziegler. I am a Research Chemist employed by PPG Industries, Inc., a joint inventor of the above-identified patent application, and I have previously submitted a Declaration Under 37 CFR 1.132 ("Declaration 1") in connection with the above-referenced patent application.

2. I have reviewed the contents of United States Patent No. 4,522,984 ("Watanabe").

3. In my opinion, the results described in Declaration 1 are not unique and would be seen with other examples of a polymer that is the reaction product of an epoxy resin having pendant hydroxyl groups and two epoxy groups per molecule and a lactone (absent other reactants), such as the polymers described in Watanabe. In particular, based on the results described in Declaration 1, it is my opinion that some epoxy groups are consumed during reaction of an epoxy resin having pendant hydroxyl groups and two epoxy groups per molecule with a lactone and, as a result, it is my opinion that such polymers have less than 2 epoxy groups per molecule.

4. To confirm my opinion, I calculated the theoretical epoxy equivalent weight for the modified epoxy resins prepared in Examples 1 and 2 of Watanabe. The theoretical epoxy equivalent weight for Example 1 was 2222 to 2777.5 (based on an epoxy equivalent weight of Araldite 6097 of 2000-2500 as reported in U.S. Patent No. 4,105,613) and the theoretical epoxy equivalent weight for Example 2 was 2500 to 3125. Based on a measured epoxy equivalent weight for Example 1 of 3,070, I conclude that the number of epoxy groups per molecule in the product of Example 1 was 1.45 to 1.8. Based on a measured epoxy equivalent weight for Example 2 of 3,910, I conclude that the number of epoxy groups per molecule in the product of Example 2 was 1.3 to 1.6. These calculations confirm my opinion that the reaction product of an epoxy resin having pendant hydroxyl groups and two epoxy groups per molecule with a

lactone (absent other reactants), such as the polymers described in Watanabe, produce a polymer having less than 2 epoxy groups per molecule.

5. In my opinion, the polymers that are the reaction product of an epoxy resin having pendant hydroxyl groups and two epoxy groups per molecule with a lactone that are described in Watanabe, wherein the epoxy groups are not modified with an amine, would not perform well as a crosslinker for a carboxyl functional polyester because of the reduced crosslink density associated with the use of an epoxy resin with fewer than two epoxy groups per molecule, which could result in poor physical properties in the resulting coating, especially hardness, solvent resistance, and flexibility.

All of the foregoing statements are made of my own knowledge, are true, and all statements made on information and belief are believed to be true.

I acknowledge that willful false statements and the like are punishable by fine or imprisonment, or both and may jeopardize the validity of the application or any patent issuing thereon.

Michael Ziegler

Date: 1/8/07